

Claims

- [c1] An external frame backpack for a human to carry a load comprising:
- a) an external frame comprised of two vertical elements and two or more horizontal elements attached between said vertical elements where the four corners of said frame in the posterior view forms a trapezoid with the top dimension being visibly shorter than the bottom dimension;
 - b) a horizontal shelf attached to said external frame extending more or less perpendicular from the plane of said frame and located near the lower end of said frame in a manner that causes said frame to stand up on a surface with no additional support;
 - c) two shoulder straps with ends attached near the top and bottom of said frame.
- [c2] A backpack of Claim 1 with a bag attached to said external frame wherein;
- a) said bag is comprised of two or more compartments wherein each said compartment includes no panel that is a structural component of another said compartment;
 - b) said bag is attached to said vertical elements in a

manner that allows said compartments to independently and freely move up or down said vertical elements, and each said compartment rests on the said compartment below and the lowest said compartment rests on said horizontal shelf.

- [c3] A backpack of Claim 1 with a waist belt attached to said external frame.
- [c4] A backpack of Claim 2 with a waist belt attached to said external frame.
- [c5] A backpack of Claim 2 wherein said compartments display a cylindrical geometry and said compartments can be independently mounted to and removed from said external frame.
- [c6] A backpack of Claim 3 wherein said frame includes two horizontal elements located near the lower portion of the frame with at least two additional vertical sub-elements connecting said two horizontal elements some distance inward from said two vertical elements; and said waist belt utilizing an outer cover composed of at least partially a hook-and-loop surface; and a band of hook-and-loop tape wrapping around said waist belt and said two horizontal elements providing an inflexible attachment method to said horizontal elements at a fixed po-

sition between said vertical sub-elements.

[c7] A backpack of Claim 3 wherein one end of said waist belt provides a loop fixture and the other end of said waist belt provides a strap that passes through said loop where the loose end of said strap binds to said waist belt with a hook-and-loop fastener.

[c8] A backpack of Claim 4 wherein extensions of said vertical elements rise above the top of the uppermost said horizontal element and said extensions are free of encumbrance by said bag; said backpack engaging a frontpack hung by straps around said extensions where said frontpack also attaches to said waist belt in a manner such that said waist belt bears a portion of the weight of said frontpack.

[c9] A backpack for a human to carry a load comprising:
a) an external frame comprising two vertical elements and two or more horizontal elements connecting said two vertical elements;
b) at least one special horizontal element displaying a bi-laterally symmetrical V-shape in the posterior view and connecting said two vertical elements near the top;
c) a waist belt that can be adjusted in the vertical direction relative to said external frame such that said special horizontal element is located at a vertical position that is

above the top of said human's shoulders;

d) two shoulder straps wherein the top ends of said straps attach to each side of said V-shaped horizontal element in a manner that allows the top of said shoulder strap to slide freely along said V-shaped element without contacting the top of said human's shoulders.

[c10] A method of assembling a pack bag comprised of two or more compartments wherein said compartments include no panel shared as a structural component with another said compartment; said method utilizing one or more attachment devices comprised of a tube and a rod wherein said tube has a "C" cross-section producing a narrow slot the full length of said tube and said rod has a diameter small enough that said rod fits loosely coaxially inside said tube, and said rod has a diameter large enough that said rod will not slip through said slot in said tube, both said rod and said tube of a length shorter than the inside length of either said compartment; wherein a fold of fabric of two adjacent said compartments envelopes said rod while said tube slips over said fold of fabric trapping said rod and said fold of fabric in place thus preventing a radial separation;